

## PATENT ABSTRACTS OF JAPAN

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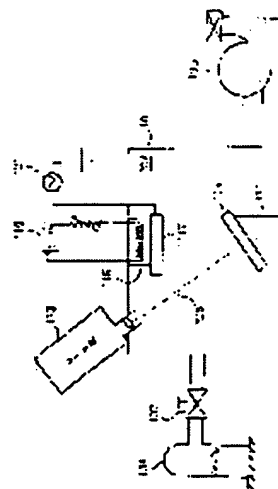
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(54) FORMING METHOD FOR HIGH PERMITTIVITY THIN FILM AND FORMING APPARATUS THEREOF

(57)Abstract:

PURPOSE: To grown a highly dielectric material of a Perovskite structure on a substrate by moving the material and flux of active oxygen toward the substrate in which a silicon layer applied by a negative potential is exposed, and covering the substrate therewith.

CONSTITUTION: A target 113 and a silicon wafer 117 are secured. Then, the wafer 117 is heated to a predetermined temperature lower than its transition temperature by a heater 119. A negative voltage supply source 121 applies an AC negative voltage to the wafer 117. Mixture gas is introduced to a sputtering chamber 103 while controlling a flowrate control valve 107, and pressure is regulated by an exhaust device 109. When a laser light 125 is emitted to the target 113, flux of lead titanate-zirconate oxide is generated from the target 113, oxygen in the mixture gas is further activated to become active oxygen. The active oxygen is accelerated by an electric field formed by an applied negative voltage to move toward the wafer 117 to cover the wafer 17.



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